

REMARKS

Claims 1, 3-10, 12-15 and 17-29 are pending. Claims 1, 4 and 8 are amended herein. Support for the amendments is found at least at page 6, lines 9-10; page 7, line 18; page 10, line 2; page 14, line 21 and page 20, line 17 of the specification. New claim 29 has been added herein. Support for the new claim is found at least at page 53, lines 14-15.

Applicants' Response to the Claim Rejections under 35 U.S.C. §112

Claims 12-15 are rejected under 35 U.S.C. §112, second paragraph, for depending from cancelled claim 11.

Applicants have amended the claims herein to depend from pending parent claim 8.

Applicants' Response to the Claim Rejections under 35 U.S.C. §102/103

Claims 1, 8-10, 12, 17-26 and 28 are rejected under 35 U.S.C. §102(b) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Land (US 2,454,515), as evidenced by Thomas (US 3,281,344).

Applicants respectfully submit that Land does not anticipate the currently presented claims for at least the reason that Land does not teach each and every feature of the claimed invention either expressly or inherently; and further, there is no reason whereby one of skill in the art would ascertain the currently claimed invention based on the teachings of Land.

Currently amended parent claims 1 and 8 recite that the fine metal particles have an aspect ratio of less than 1.5.

Land requires colloidal needle-like asymmetric metal as the particles. This includes the claim language cited to by the Examiner at col. 11, lines 10-13. Land clearly requires, by repeatedly stating that the particles are needle-like, that an aspect ratio greater than 1.5 is required for the polarizer film thereof, as evidenced by US 5,489,496. US 5,489,496 having been cited by the Office as evidence that need-like is an aspect ratio of 1.5 or more. As such, there is no teaching of this feature of applicants' parent claims 1 and 8 either expressly or inherently.

Further, in regard to the teachings of Thomas, currently pending claims 1 and 8 state that the fine metal particles are gold or silver particles. In Thomas only iron fine particles are exemplified. On the other hand, in Land, iron fine particles are not exemplified. Since the fine metallic particles of the present application are gold or silver fine particles, Thomas does not teach an evidencing disclosure which is capable of supporting the teaching of Land. The different properties of the metals used distinctly differentiate Land from Thomas as the resulting characteristics of any film would likewise be distinct.

Still further, currently pending claims 1 and 8 state that the translucent polymer has uniaxial birefringence due to uniaxial stretching. Land does not disclose this characteristic of the polymer thereof.

In addition, as set forth in the current invention, while iodine or a dichroic dye is usually used as an absorption material, in the current invention, a metal is used as an absorption material by using the characteristics of the fine metallic particles. Specifically, a plasmon absorption is caused by resonance between an oscillation of incident light at an interface of a fine particle and a plasma oscillation of electrons in the fine particle, in which situation the metal exhibits a large

light absorption characteristic. Since a wavelength region having a polarization characteristic is determined by a plasmon absorption wavelength of fine metallic particles and a refractive index of a translucent polymer, which is a medium, a polarizer with any optical characteristic can be designed by using a birefringence of the translucent polymer. See page 6, lines 6-24 of the specification. Contrary, Land does not disclose expressly or inherently that optical anisotropy is expressed to exhibit polarization properties by dispersing the gold or silver particles in the polymer. Wherefore, there is no reason whereby one of skill in the art would be able to ascertain the currently claimed invention based on the teachings of Land.

Claims 4-6, 8-10, 13-15, 27 and 28 are rejected under 35 U.S.C. §102(e) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Hikmet (US 6,833,166), as evidenced by Thomas (US 3,281,344).

Applicants respectfully traverse on at least the basis that Hikmet does not teach the aspects for which it is relied upon.

In response to the argument that Hikmet fails to teach fine metallic particles dispersed in the polymer matrix, the Examiner asserts that Hikmet teaches that the quantum dots can be conductive metal particles which are free metal particles as opposed to water-insoluble salt such as CdS. See page 21, section 14 of the Office Action. The Examiner cites to column 1, lines 15-30 of Hikmet as supporting this assertion. However, this section of Hikmet reads:

In particles of nanometer size, a gradual transition from bulk to molecular structure occurs as the particle size decreases. The particles which show these

quantization effects are often called quantum dots. They show size dependant optical and electronic properties. For example, the band gap of these materials can show increase by several electron volts with respect to the bulk material with decreasing particle size. This is reflected in the absorption and the photoluminescence spectra of the materials that shift hundreds of nanometers with decreasing particle size. The band gap of these materials has been adjusted to produce composites to obtain electroluminescence. In the case of conductive metal particles optical properties such as absorption become also size dependant. Various methods have been described for obtaining composites of quantum dots in polymer matrices.

The above section is reciting only characteristics of quantum dots. Within this section of Hikmet, and the remainder of the reference, there is no teaching that quantum dots are not aligned within the polymer matrix. As such, Hikmet does not teach an alternative of free metal particles as opposed to the water-insoluble salt of CdS. Wherefore, Hikmet even as evidenced by Thomas does not teach the aspect of the currently claimed invention for which it is relied upon. As such, the present invention is not anticipated, nor obvious in light of Hikmet.

Applicants' Response to the Claim Rejections under 35 U.S.C. §103

Claim 3 is rejected under 35 U.S.C. §103(a) as being unpatentable over Land (US 2,454,515), as evidenced by Thomas (US 3,281,344), as applied to claims 1, 8-10, 12, 17-26 and 28.

Claim 7 is rejected under 35 U.S.C. §103(a) as being unpatentable over Hikmet (US 6,833,166), as evidenced by Thomas (US 3,281,344), as applied to claims 4-6, 8-10, 13-15, 27 and 28.

Application No.: 10/532,059
Art Unit: 1794

Amendment under 37 CFR §1.114
Attorney Docket No.: 052453

Claims 19-23, 25 and 28 are rejected under 35 U.S.C. §103(a) as being unpatentable over Land (US 2,454,515), as evidenced by Thomas (US 3,281,344), as applied to claims 1, 8-10, 12, 17-26 and 28 above, and further in view of Oshima (US 4,268,127).

Claims 12, 24 and 25 are rejected under 35 U.S.C. §103(a) as being unpatentable over Hikmet (US 6,833,166), as evidenced by Thomas (US 3,281,344), as applied to claims 4-6, 8-10, 13-15, 27 and 28 above, and further in view of Oshima (US 4,268,127).

As claims 3, 7, 12, 24 and 25 all depend in part from respective parent claims 1, 4 and 8, by addressing the rejection to the parent claims, as detailed above, the rejection of these claims should likewise be considered addressed by nature of their dependency.

In view of the aforementioned amendments and accompanying remarks, Applicants submit that the claims, as herein amended, are in condition for allowance. Applicants request such action at an early date.

If the Examiner believes that this application is not now in condition for allowance, the Examiner is requested to contact Applicants' undersigned attorney to arrange for an interview to expedite the disposition of this case.

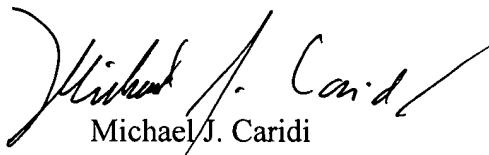
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If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,

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